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DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MARYLAND 20014

October 15, 1973

Dr. Joshua Lederberg
Professor of Genetics
Department of Genetics
Stanford University
School of Medicine
Palo Alto, California 94304

Dear Dr. Lederberg:

Enclosed is a draft statement of the management notions of the SUMEX AIM computer resource. The statement is intended to provide the base for launching shared computer resources as well as specific features of the SUMEX operations. It is presented for your appraisal, comments and suggestions.

The second and subsequent pages are suggested agenda items proposed for discussion at the first meeting of the executive committee.

If you find no serious deficiencies in the management proposed for SUMEX, we should close on the membership of the executive committee and proceed to its first meeting.

Very sincerely yours,

Bill

William Roy Baker, Jr., Ph.D.
Assistant Chief
Biotechnology Resources Branch
Division of Research Resources

Enclosure

SUMEX-AIM RESOURCE MANAGEMENT

The SUMEX computer resource is an activity dedicated to the support of artificial intelligence in medicine. It is a shared resource (shared mainly through computer networking) having two separately identifiable operational entities. First, SUMEX[1], serving the Stanford Community; and second Artificial Intelligence in Medicine[2] (AIM), that portion of SUMEX shared by the national community. SUMEX resource management requires at the beginning representation from Stanford, the national community of users, and the sponsoring agency. The Stanford representation must insure that the institutional environment is continuously receptive to the operation of the shared resource. Acceptability, stability, and utility of the resource requires continuous attention by a representative knowledgeable of user needs. The sponsoring agency must maintain program balance as other shared computer resources are added to the program.

The support provided to the national user community through AIM will cover communication traffic costs and AIM usage. The support of user activities at their own institutions (e.g., salaries, travel costs) will need be provided through mechanisms other than the AIM-SUMEX grant award to Stanford (e.g., research project grants from NIH or other sponsors).

The following arrangement is based upon past resource management experience and an estimation of significant management issues in resource sharing.

Group	Composition	Function
Executive Committee	SUMEX P.I.; BRB Representative; Representative of User Constituency; (Also Candidate for future Shared Resources Advisory Group (SRAG))	Establish and coordinate advisory activities; Allocate resources between host and non-host activities; Specify operating policies for resource; Monitor operating practices of resource; Specify nature and timing of changes in resource capacity.
Stanford Advisory Committee	SUMEX P.I. (Chairman); selected others.	Plan and monitor core R&D and collaborative activities; Monitor operating practices of the Stanford portion of resource; Allocate Stanford portion of resource.
AIM National Coordinating Group (To become a Sub-Group of SRAG)	SRAG Representative (Chairman); BRB Representative (Executive Secretary); selected others.	Recommend operating policies for the resource; Specify nature and scope of activities eligible to use AIM portion of the resource; Allocate AIM portion of the resource; Monitor AIM uses of the resource; Recommend augmentation as need arise.
BRB Shared Resource Advisory Group (SRAG)	National membership selected to cover technology and science of all BRB Shared Resources; BRB Representative (Executive Secretary).	Advise BRB on policies and actions to meet the needs of biomedical research through research resource sharing.

The following is proposed as the business to be discussed at the first meeting of the Executive Committee.

A. Allocation of Capacity

The Artificial Intelligence for Medicine (AIM) resource represents 50 percent of the machine capacity of the SUMEX grant application. The initial AIM capacity (50 percent) is to be allocated for use by the national community by mechanisms established by BRB. Allocation of the remainder of SUMEX capacity, also initially 50 percent, will be determined by the Stanford Advisory Committee.

B. Administration of AIM

The SUMEX-AIM Computer Resource will be initially configured to meet the service needs of the ensemble of initial users[3] as identified in the SUMEX application and reviewed by NIH. The Executive Committee will advise BRB on the allocation of SUMEX capacity. Excess capacity is expected to be available for new users with initial users and Stanford SUMEX usage permitted on a second priority basis. The proposed configuration and initial allocation of machine capacity and initial scheduling of time will be determined by BRB with advice from an Executive Committee (consisting of the principal investigator, a BRB representative, and a specifically qualified member of the computer science community). The SUMEX resource will provide BRB with AIM usage information on a monthly basis and assist in developing prediction data for planning future allocation.

(a) Because of the substantial computer knowledge base of the initial users, the SUMEX burden of introducing users to AIM and facilitating their day to day use will be small. Therefore, this activity will be handled initially by the SUMEX resource staff.

(b) The AIM National Advisory Group will be charged with advising the Executive Committee of the need for future augmentation of SUMEX to facilitate the effectiveness of AIM service to its user community if such augmentation is needed.

(c) Informal training activities in AIM will be initiated on advice from the Executive Committee and BRB.

C. The Initial SUMEX-AIM Budget

Funding (10/1/73 - 11/30/73)

1. Personnel

1.0	Director
1.0	Network user planning
1.5	Software planning
0.5	Hardware planning
4.0	FTE

Direct Salaries	$84,000
Staff Benefits	14,280
	$98,280

2. Supplies, phones, travel, etc. (not including AIM organizing committee travel, etc.) 5,000

3. Interim computer usage (e.g., at ISI), terminals, etc. 25,000

Net Total Direct $128,280/Year

or $10,690/Month

Indirect costs @ 47% on $128,280 = $60,292/Year

D. Administration of Applications for Use of AIM

There will be established a mechanism to make potential candidates of AIM service aware of this resource and the process of application for introduction and use. The focus of administration will be centered through NIH.

The proposed process is a sequence of steps by the applicant, AIM National Coordinating Group (CG) and BRB staff as follows:

Action by:

NIH - Public Announcement

APPLICANT - Submission of Prospectus of Problem(s) and need for AIM Resource Capability

AIM CG - Review of Prospectus

Covering:

(a) level of scientific merit

(b) relevance to AIM objectives

(c) determination of whether informal training is required before becoming a candidate user or that the applicant is a candidate user

(d) estimation of increased resource sharing burden at AIM and the home institution of the applicant

(e) recommendation of augmentation necessary for AIM to handle the load introduced by this application

EXECUTIVE COMMITTEE - Selection of AIM User

NIH - Advises applicants concerning results of review

AIM-SUMEX - Introduces approved applicant to network and AIM Resource

The Coordinating Group will meet as frequently as required to handle AIM transactions.

The applicant, as necessary and at the opportune time, will apply for and obtain funding from appropriate sources (Categorical Institutes, BRB and other sources).